

CLAIM AMENDMENTS

1-8. (WITHDRAWN FROM CONSIDERATION)

9. (ORIGINAL) The integrated circuit structure produced according to the process of claim 7.

E1 10. (ORIGINAL) The integrated circuit structure produced according to the process of claim 8.

11-12. (WITHDRAWN FROM CONSIDERATION)

13. (ORIGINAL) The integrated circuit structure produced according to the process of claim 11.

14. (ORIGINAL) The integrated circuit structure produced according to the process of claim 12.

15-16. (WITHDRAWN FROM CONSIDERATION)

16. (ORIGINAL) The process of claim 15 wherein steps (b) through (n) are repeated at least once on the previously formed integrated circuit structure.

17. The integrated circuit structure produced according to the process of claim 15.

18. (ORIGINAL) The integrated circuit structure produced according to the process of claim 16.

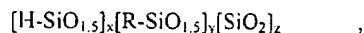
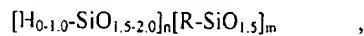
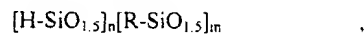
19-20. (WITHDRAWN FROM CONSIDERATION)

21. (ORIGINAL) The integrated circuit structure produced according to the process of claim 19.

22. (ORIGINAL) The integrated circuit structure produced according to the process of claim 20.

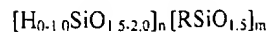
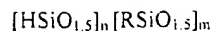
23. (CURRENTLY AMENDED) An integrated circuit structure which comprises a substrate and

(a) an organic layer on a surface of the substrate which comprises a pattern of metal lines on the substrate and an organic dielectric on the substrate surface between the metal lines, and wherein the organic dielectric comprises a dielectric selected from the group consisting of alkoxysilane polymers, organic siloxanes, hydroorganosiloxanes, hydrogenmethyilsilsesquioxane, hydrogenethylsilsesquioxane, hydrogenpropylsilsesquioxane, hydrogenbutylsilsesquioxane, hydrogen*tert*-butylsilsesquioxane and hydrogenphenylsilsesquioxane, ~~polyimides, fluorinated and nonfluorinated poly(arylethers)~~, methylated siloxane polymers, polymers having the formulae $[(\text{HSiO}_{1.5})_x(\text{RSiO}_{1.5})_y]_n$, $[(\text{HSiO}_{1.5})_x(\text{RSiO}_{1.5})_y]_n$ and $[(\text{HSiO}_{1.5})_x(\text{RSiO}_{1.5})_y]_n$ wherein x = about 6 to about 20, y =1 to about 3, z = about 6 to about 20, n =1 to about 4,000, and each R is independently C_1 to C_8 alkyl or C_6 to C_{12} aryl;)
organic silicon containing polymers having the formulae



wherein R is selected from substituted and unsubstituted straight chain and branched alkyl groups, cycloalkyl groups, substituted and unsubstituted aryl groups, and mixtures thereof; the sum of n and m , or the sum of x , y and z is from about 8 to about 5000, and m and y are selected such that carbon containing substituents are present in an amount of less than about 40 Mole percent;

organic silicon containing polymers having the formulae:



wherein the sum of n and m is from about 8 to about 5000 and m is selected such that the carbon containing substituent is present in an amount of from about 40 mole percent or greater; and



wherein the sum of x, y and z is from about 8 to about 5000 and y is selected such that the carbon containing substituent is present in an amount of about 40 mole % or greater; and wherein R is selected from substituted and unsubstituted straight chain and branched alkyl groups, cycloalkyl groups, substituted and unsubstituted aryl groups, and mixtures thereof, and mixtures thereof; and

(b) an inorganic layer on the organic layer which comprises an inorganic dielectric selected from the group consisting of hydrogensiloxanes, inorganic hydrogensilsesquioxanes and combinations thereof, having metal filled vias therethrough which connect to the metal lines of the organic layer; and wherein the hydrogensiloxanes have the formula $[(\text{HSiO}_{1.5})_x\text{O}_y]_n$, and the hydrogensilsesquioxanes have the formula $(\text{HSiO}_{1.5})_n$, wherein x= about 6 to about 20, y=1 to about 3, and n=1 to about 4,000.

24. (Original) The integrated circuit structure of claim 23 which comprises

(c) an additional organic layer on the inorganic layer which comprises a pattern of additional metal lines on the inorganic layer and an organic dielectric on the inorganic layer between the additional metal lines; and

(d) an additional inorganic layer on the additional organic layer which comprises an inorganic dielectric having metal filled vias therethrough which connect to the additional metal lines of the additional organic layer.

25. (Original) The integrated circuit structure of claim 24 which comprises one or more further alternating organic layers (c) and inorganic layers (d) on the additional organic layer (c) and inorganic layer (d).

26. (Original) The integrated circuit structure of claim 24 further comprising an organic dielectric layer on the inorganic layer between the vias and under the additional metal lines of the additional organic layer; and an inorganic dielectric on the organic dielectric layer between the additional metal lines of the additional organic layer.

27. (Previously Amended) The integrated circuit structure of claim 25 further comprising an organic dielectric layer on each one or more alternating inorganic layer (d) between the vias and under the additional metal lines of the alternating organic layer; and an inorganic dielectric on each one or more organic dielectric layer between the additional metal lines of the additional organic layer.

28. (Original) The integrated circuit structure of claim 23 wherein the metal lines and vias have a barrier metal on one or more edges thereof.

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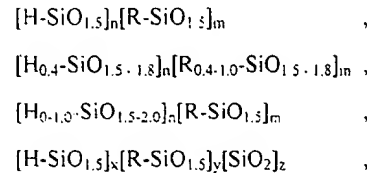
29. (CURRENTLY AMENDED) A dielectric coated substrate which comprises:

(a) a first dielectric composition film on a surface of a substrate; and

(b) a second dielectric composition film on the first dielectric composition film;

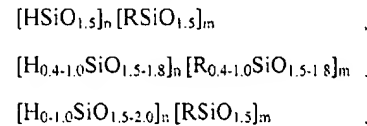
wherein the first dielectric composition and the second dielectric composition have substantially different etch resistance; wherein either the first dielectric composition film is organic and the second dielectric composition film is inorganic; or the first dielectric composition film is inorganic and the second dielectric composition film is organic; wherein the organic dielectric comprises a dielectric selected from the group consisting of alkoxysilane polymers, organic siloxanes, hydroorganosiloxanes, hydrogenmethylsilsesquioxane, hydrogenethylsilsesquioxane, hydrogenpropylsilsesquioxane, hydrogenbutylsilsesquioxane, hydrogen*tert*-butylsilsesquioxane and hydrogenphenylsilsesquioxane, ~~polyimides, fluorinated and nonfluorinated poly(arylethers)~~, methylated siloxane polymers; polymers having the formulae $[(\text{HSiO}_{1.5})_x\text{O}_y(\text{RSiO}_{1.5})_z]_n$, $[(\text{HSiO}_{1.5})_x(\text{RSiO}_{1.5})_y]_n$ and $[(\text{HSiO}_{1.5})_x\text{O}_y(\text{RSiO}_{1.5})_z]_n$ wherein x = about 6 to about 20, y =1 to about 3, z = about 6 to about 20, n =1 to about 4,000, and each R is independently C_1 to C_8 alkyl or C_6 to C_{12} aryl;

organic silicon containing polymers having the formulae

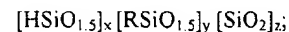


wherein R is selected from substituted and unsubstituted straight chain and branched alkyl groups, cycloalkyl groups, substituted and unsubstituted aryl groups, and mixtures thereof; the sum of n and m, or the sum of x, y and z is from about 8 to about 5000, and m and y are selected such that carbon containing substituents are present in an amount of less than about 40 Mole percent;

organic silicon containing polymers having the formulae:



wherein the sum of n and m is from about 8 to about 5000 and m is selected such that the carbon containing substituent is present in an amount of from about 40 mole percent or greater; and



wherein the sum of x, y and z is from about 8 to about 5000 and y is selected such that the carbon containing substituent is present in an amount of about 40 mole % or greater; and wherein R is selected from substituted and unsubstituted straight chain and branched alkyl groups, cycloalkyl groups, substituted and unsubstituted aryl groups, and mixtures thereof; and mixtures thereof; and

wherein the inorganic dielectric composition film comprises an inorganic dielectric selected from the group consisting of hydrogensiloxanes, inorganic hydrogensilsesquioxanes and combinations thereof; and wherein the hydrogensiloxanes have the formula $[(\text{HSiO}_{1.5})_x \text{O}_y]_n$, and the hydrogensilsesquioxanes have the formula $(\text{HSiO}_{1.5})_n$, wherein x= about 6 to about 20, y=1 to about 3, and n=1 to about 4,000.

30. (Original) The dielectric coated substrate of claim 29 wherein the first dielectric composition film is organic and the second dielectric composition film is inorganic.

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31. (Original) The dielectric coated substrate of claim 29 wherein the first dielectric composition film is inorganic and the second dielectric composition film is organic.
